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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/810,372	03/26/2004	Anthony L. Lentine	Lentine 33-29	8600
46363	7590	05/03/2005	EXAMINER	
MOSER, PATTERSON & SHERIDAN, LLP/ LUCENT TECHNOLOGIES, INC 595 SHREWSBURY AVENUE SHREWSBURY, NJ 07702			PEZZLO, JOHN	
			ART UNIT	PAPER NUMBER
			2662	

DATE MAILED: 05/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/810,372

Applicant(s)

LENTINE ET AL.

Examiner

John Pezzlo

Art Unit

2662

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

I. Claims 1-5 and 8-13 are rejected under 35 U.S.C. 102(e) as being anticipated by Geile et al. (US 6,279,158 B1) hereinafter Geile.

1. Regarding claim 1 – Geile discloses generating a signal by combining the control information with the data, wherein the data is transmitted within a prescribed frequency bandwidth, wherein a frequency gap is defined within the frequency bandwidth, wherein control information is transmitted over the data link within the frequency gap, and wherein the data handling capacity of the data link is maintained, refer to Figure 13 and column 5 lines 30 to 40 and 6 lines 55 to 63 and column 9 lines 19 to 67 and column 11 lines 40 to 60 and column 12 lines 35 to 47 and column 13 lines 2 to 27 and column 41 lines 1 to 30. Geile discloses a telephony system utilizing a CATV distribution network wherein a headend utilizes a downstream point to multipoint signal (240 users per 6 MHz channel, column 95 lines 60 to 65)

Art Unit: 2662

concept and an upstream multipoint to point signal concept to provide narrowband and broadband audio and data telephone service to subscribers. In the downstream signal Geile utilizes orthogonal tones for both data and control information are modulated into a single carrier and the control tones (IOC) are interspersed in gaps between the data tones while the data handling capacity of the network is maintained, refer to Figures 1, 3, and 8 and column 19 lines 13 to 40.

2. Regarding claim 2 – Geile discloses the control information is Ethernet compatible, refer to Figure 102 and column 96 lines 30 to 47.

3. Regarding claim 3 – Geile discloses the control information is transmitted within frequency minima (24 frequency tones) contained within the data, refer to Figure 13 and column 41 lines 1 to 30.

4. Regarding claim 4 – Geile discloses the frequency of said frequency minima is a baseband frequency, refer to Figure 13 and column 41 lines 1 to 30.

5. Regarding claim 5 – Geile discloses said data comprises a plurality of frequency minima (24 frequency tones), refer to Figure 13 and column 41 lines 1 to 30.

Art Unit: 2662

6. Regarding claim 8 – Geile discloses receiving the combined signal and separating the control information from the data in the combined signal, refer to Figures 3 and 8 and column 19 lines 40 to 67 and column 20 lines 1 to 11.

7. Regarding claim 9 – Geile discloses a combiner device that produces a signal defined by a series of data packets separated by a frequency gap within a prescribed frequency bandwidth, wherein said combiner device inserts control information into said frequency gap, Geile discloses a telephony system utilizing a CATV distribution network wherein a headend utilizes a downstream point to multipoint signal (240 users per 6 MHz channel, column 95 lines 60 to 65) concept and an upstream multipoint to point signal concept to provide narrowband and broadband audio and data telephone service to subscribers. In the downstream signal Geile utilizes orthogonal tones for both data and control information are modulated into a single carrier and the control tones (IOC) are interspersed in gaps between the data tones while the data handling capacity of the network is maintained, refer to Figures 1, 3, and 8 and column 19 lines 13 to 40.

Geile discloses a transmitter device that transports the signal over a data link, wherein the data handling capacity of the data link is maintained, refer to Figures 1 and 3 and 4 and column 13 lines 3 to 26 and column 19 lines 40 to 67 and column 20 lines 21 to 42.

8. Regarding claim 10 – Geile discloses a splitter device that receives the signal, and separates the control information from the data contained within the signal, refer to Figure 8 and

Art Unit: 2662

column 28 lines 52 to 67 and column 29 and column 30 lines 1 to 21, wherein the splitter is formed by the duplex filter and the ISO modem which separates the data and control information.

9. Regarding claim 11 – Geile discloses generating first data in the form of an analog signal, refer to Figure 13 and column 9 lines 18 to 34.

Geile discloses filtering out prescribed frequency bandwidths in said analog signal, refer to Figure 13 and column 5 lines 30 to 40.

Geile discloses generating first control information, refer to Figure 13 and column 6 lines 13 to 27 and column 6 lines 55 to 64.

Geile discloses inserting the first control information into the analog signal in at least one of the prescribed frequency bandwidths, Geile discloses a telephony system utilizing a CATV distribution network wherein a headend utilizes a downstream point to multipoint signal (240 users per 6 MHz channel, column 95 lines 60 to 65) concept and an upstream multipoint to point signal concept to provide narrowband and broadband audio and data telephone service to subscribers. In the downstream signal Geile utilizes orthogonal tones for both data and control information are modulated into a single carrier and the control tones (IOC) are interspersed in gaps between the data tones while the data handling capacity of the network is maintained, refer to Figures 1, 3, and 8 and column 19 lines 13 to 40.

10. Regarding claim 12 – Geile discloses generating second control information and a second data in response to an output signal, refer to Figure 10 and column 7 lines 60 to 67 and column 8

Art Unit: 2662

lines 1 to 19. Geile discloses monitoring the parity bit (output signal) and utilizing a test channel (second control information and second data) in response to parity errors to check the channel.

11. Regarding claim 13 – Geile discloses a first node, including:

Geile discloses a data generation device that generates packet based data having a first bandwidth, Geile discloses a telephony system utilizing a CATV distribution network wherein a headend utilizes a downstream point to multipoint signal (240 users per 6 MHz channel, column 95 lines 60 to 65) concept and an upstream multipoint to point signal concept to provide narrowband and broadband audio and data telephone service to subscribers. In the downstream signal Geile utilizes orthogonal tones for both data and control information are modulated into a single carrier and the control tones (IOC) are interspersed in gaps between the data tones while the data handling capacity of the network is maintained, refer to Figures 1, 3, and 8 and column 19 lines 13 to 40.

Geile discloses a control information generation device that generates control information, refer to Figure 13 and column 6 lines 13 to 27 and column 6 lines 55 to 64.

Geile discloses a signal combining device that produces a combined signal from the control information and the data, wherein the combined signal extends at least partially within the first bandwidth, refer to Figures 1, 3, and 8 and column 19 lines 13 to 40.

Geile discloses a signal transmission device that transmits the combined signal over a data link without effecting data handling capacity within the first bandwidth, and wherein the transmission of the control information does not reduce data handling capacity of the data link,

Art Unit: 2662

refer to Figures 1 and 3 and 4 and column 13 lines 3 to 26 and column 19 lines 40 to 67 and column 20 lines 21 to 42.

Geile discloses a second node, including,

Geile discloses a first receiver device that receives the combined signal, refer to Figures 3 and 8 and column 19 lines 40 to 67 and column 20 lines 1 to 11.

Geile discloses a signal splitter device that separates the control information and the data from the combined signal, refer to Figure 8 and column 28 lines 52 to 67 and column 29 and column 30 lines 1 to 21, wherein the splitter is formed by the diplex filter and the ISO modem which separates the data and control information.

Geile discloses said data link interconnecting the first node and the second node, refer to Figures 1 and 2 and column 18 lines 25 to 45 and column 21 lines 4 to 20.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

II. Claims 6, 7, 14, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Geile (same as above).



Art Unit: 2662

1. Regarding claims 6, 7, 14 and 15 – Geile discloses control information is Ethernet compatible and the link comprises multiplexed data, refer to Figure 102 and column 96 lines 30 to 47 and Figure 13 and column 41 lines 1 to 30 and Figures 3 and 8 and column 19 lines 40 to 67 and column 20 lines 1 to 11.

Geile does not expressly disclose that the data link comprises a Gigabit Ethernet data link.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to provide for Gigabit Ethernet.

The suggestion/motivation for doing so would have been that Geile provides broadband data services and providing a Gigabit Ethernet data link is keeping with the trend in the telecommunications industry to provide greater bandwidth and the latest in industry standards. Gigabit Ethernet is latest and fastest and highest bandwidth Ethernet standard and providing services to match the latest service will maintain customer satisfaction and provide the latest services consistent with industry trends and standards.

### ***Response to Arguments***

Applicant's arguments filed 2 March 2005 have been fully considered but they are not persuasive. Applicants argue on page 8 of the response that Geile fails to teach "control information is transmitted over the data link within the frequency gap". The examiner respectively disagrees. Geile discloses in Figure 13 and column 5 lines 30 to 40 and column 6 lines 55 to 63 and column 9 lines 19 to 67 and column 11 lines 40 to 60 and column 12 lines 35

Art Unit: 2662

to 47 and column 13 lines 2 to 27 and column 41 lines 1 to 30 that control information is transmitted over the data link within the frequency gap. As shown in Figure 13, 2 IOC tones are spaced between the payload tones. The 2 IOC tones are used to transmit control information and are transmitted in the gaps between the payload tones, which are the data transmissions.

Applicants argue on page 11 of the response that since the rejection of the independent claims is not correct then the rejection of the dependent claims is incorrect. The examiner respectively disagrees. Based on the above arguments, the examiner believes that 102 rejection is proper, therefore the 103 obvious rejection is also proper.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Art Unit: 2662

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Pezzlo whose telephone number is (571) 272-3090. The examiner can normally be reached on Monday to Friday from 8:30 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou, can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2600.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C.

or faxed to:

(703) 872-9306

For informal or draft communications, please label "PROPOSED" or "DRAFT"

Hand delivered responses should be brought to:


Jefferson Building

500 Dulany Street

Alexandria, VA.

John Pezzlo

28 April 2005



**JOHN PEZZLO**  
**PRIMARY EXAMINER**